Center (WTC) attack of September 11, 2001 (9/11), both in patients living near or geographically distant from New York City (1,2). By contrast, another work found that, compared with control years, there was no disproportionate increase in cardiovascular mortality after the terrorist attacks in New York City (3). A major advantage of this latter study is to compare the variation in the occurrence of events in 2001 and in the years since 1997 (an analysis of "the variation of the variations").

We believe interpretation of the results of Steinberg et al. (1) and of Shedd et al. (2) might therefore be doubtful. Similarly, if the investigators had also found that arrhythmic events were more frequent on 9/11 between 9 AM and 12 noon (after the attack) than between 5 AM and 8 AM (before the attack), it would be difficult to make a direct relation between this phenomenon and the attack, because there is a well-known diurnal variation of cardiac events, with more frequent events in the morning hours (4).

Because a circannual variation of malignant ventricular tachyarrhythmias in patients with implantable cardioverter-defibrillators has clearly been reported (with a lower number of events in summer than in autumn and winter) (5), we believe the analysis of the variation of events across several years would also be mandatory to conclude that the WTC tragedy was associated with an increased risk of life-threatening ventricular arrhythmias in the general population.

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REPLY

We appreciate the comments of Dr. Fauchier and colleagues regarding our recent reports describing an increase in the incidence of life-threatening ventricular arrhythmias in both New York City (1) and Florida (2) in the aftermath of the World Trade Center (WTC) attack.

A concern was raised that we did not compare the event rate of 2001 with a control period. In fact, we did compare the 30-day period following September 2001 with 13 monthly periods afterward (including September 2002) and found the index month to have a statistically higher arrhythmia event rate, with an odds ratio of 2.5 ($p = 0.004$) than all other monthly intervals (1). Thus, there appeared to be a specific aberration temporally linked to the period following the WTC attack, which was not attributable to seasonal or monthly variation. We also noted that the study of cardiovascular mortality in New York City (3) did not confirm a higher death rate, but this form of analysis, using death certificates, is fraught with inaccuracies in assessment of cause of death that may make it insensitive for evaluating specific arrhythmic events.

Fauchier et al. state that if the events had concentrated in the morning hours after the attack on September 11, this would lend credence to our conclusions. However, as described (1), the event rate did not increase on September 11, but did increase three days later, and remained elevated for one month. In respect to the diurnal variation of events, we surprisingly found a shift in the preponderance of events to the evening instead of the morning (J.S. Steinberg, unpublished observations, 2001), supporting speculation that stress was heightened by exposure to the graphic scenes replayed by the media (1).

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Improved Outcomes of Pediatric Dilated Cardiomyopathy and Heart Transplantation

The report by Tsirka et al. (1) provided a very useful update of the outcomes for infants and children who develop dilated cardiomyopathy (DCM). Their use of a category combining death and cardiac transplant ("heart death") as end points was sensible and helpful. However, some of the diagnostic categories were less than fully explained and somewhat arbitrary. If patients with muscular dystrophy ($n = 4$) and inherited metabolic disorders ($n = 5$), both uniformly fatal diseases, were not included, their total population of DCM would be only 82 instead of 91, and the population of survivors with recovery of normal contractility would amount to